

CLAIMS

1. Article of manufacture comprising a substrate and a layer of $N_{(x)}Y_{(1-x)}AlO_3$ on the substrate where x is a molar fraction greater than zero and less than one, and N is an
5 element selected from the group consisting of La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu.
2. Article as claimed in claim 1, wherein N comprises La.
- 10 3. Article as claimed in claim 1, wherein said layer has a rhombohedral perovskite structure.
4. Article as claimed in claim 3, wherein said layer has an average dielectric constant value in the range between 15 and 35.
- 15 5. Article as claimed in claim 2, wherein x is greater than 0.07.
6. Article as claimed in claim 5, wherein x is less than 0.4.
- 20 7. Article as claimed in claim 1, further comprising an electrode electrically isolated from said substrate by said layer.
8. Electronic device comprising an article as claimed in claim 7.
- 25 9. Field effect transistor device comprising an article as claimed in claim 7, wherein said electrode is the gate of a field effect transistor device.
10. Method of manufacturing an article of manufacture comprising the steps of selecting a substrate and forming a layer of $N_{(x)}Y_{(1-x)}AlO_3$ on said substrate where x is a
30 molar fraction greater than zero and less than one, and N is an element selected from

the group consisting of La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu.

11. Method of claim 10, wherein said step of forming includes the step of forming
5 said layer by molecular beam epitaxy.